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Supplemental Material

Identification of *Microcystis aeruginosa* Peptides Responsible for Allergic Sensitization and Characterization of Functional Interactions between Cyanobacterial Toxins and Immunogenic Peptides

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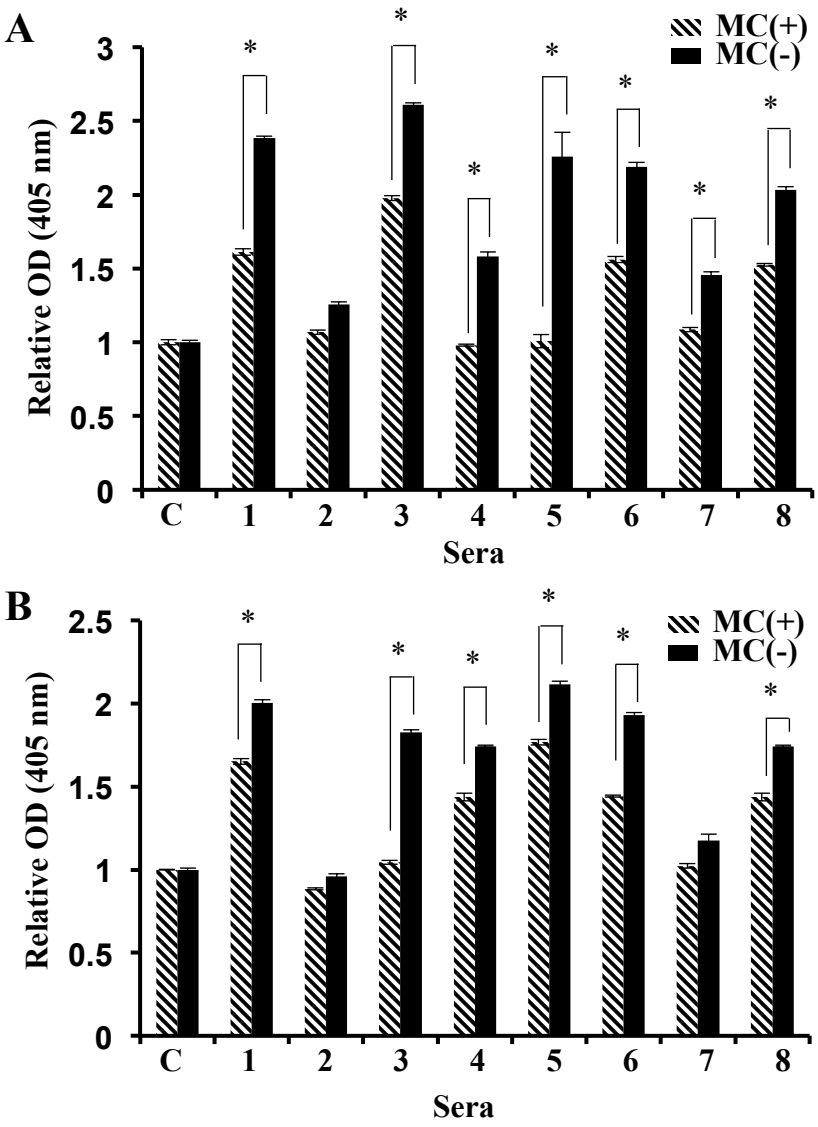
Figure S1. IgE-specific ELISA with different batch lysates (A and B) of *M. aeruginosa* crude cell extracts from toxic, MC(+) and nontoxic, MC(-) strains using individual patient serum from *M. aeruginosa* SPT-positive patients (1-8) and a non-atopic control (C). A paired student's t-test was performed and the asterisks indicate a statistical significance difference ($p<0.01$) between MC(+) and MC(-) strains.

Figure S2. Specific IgE Western blot quantification. The intensity of individual bands from each lane of the western blot image (Figure 1B) was quantified using Labworks software (Ultra-Violet Products Ltd, Upland, CA). The total intensity represents the sum total of individual IgE binding proteins within each lane.

Figure S3. Cytotoxicity Assay. Rat basophil leukemia cells (RBL SX-38) were seeded at 10^4 cells per well in a 96-well plate. At 90% confluence, the cells were either left untreated or treated for 48 hours with varying concentrations of M. aeruginosa toxic strain [MC(+)] and nontoxic

strain [MC(-)] lysates. At the end of the treatment, CytoScan-WST-1 cell toxicity kit (G-bioscience, St. Louis, MO) was used to measure the cytotoxic effect of the lysates per manufacturer's protocol. Percent cytotoxicity was calculated as follows: % Cytotoxicity = (100 x (Cell Control–Experimental)) ÷ (Cell Control). Asterisk ($p<0.05$) and triple asterisks ($p<10^{-5}$) indicate a significance difference from untreated cells using an unpaired Student's t-test.



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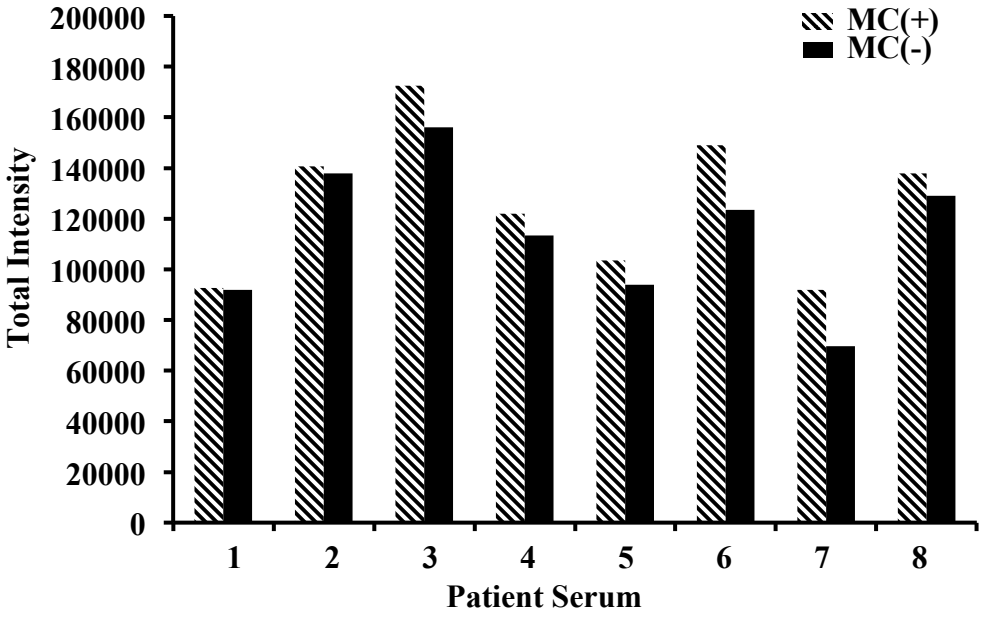

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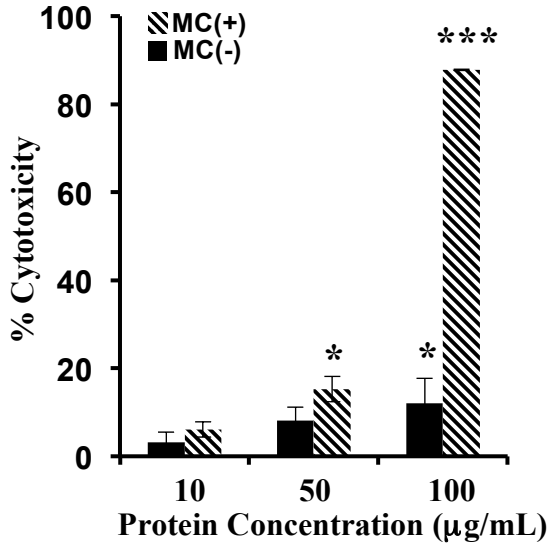

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